

AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING		PAGE OF PAGES 1   22					
2. CONTRACT (Proc. Inst. Ident.) NO. HR0011-07-C-0094		3. EFFECTIVE DATE 8/23/07		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. SEE SCHEDULE							
5. ISSUED BY DARPA CWO (b)(6) ATTN: 3701 N. FAIRFAX DR. ARLINGTON VA 22203-1714		CODE HR0011		6. ADMINISTERED BY (If other than Item 5) DCMA SYRACUSE 815 ERIE BLVD., WEST SUITE 300 SYRACUSE NY 13204-2408		CODE S3306A					
7. NAME AND ADDRESS OF CONTRACTOR (No. street city, county, state and zip code) OPTITHINK JOHN R. MARCIANTE P.O. BOX 511 WEBSTER NY 14580-0511				8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)							
				9. DISCOUNT FOR PROMPT PAYMENT Net 30 Days							
CODE 4TBS0				FACILITY CODE		10. SUBMIT INVOICES 1 (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: ITEM Section G					
11. SHIP TO/MARK FOR DARPA DR. JOSEPH MANGANO ATTN: MICROSYSTEMS TECHNOLOGY OFFICE 3701 NORTH FAIRFAX DRIVE ARLINGTON VA 22203-1714		CODE HR0011		12. PAYMENT WILL BE MADE BY OFAS COLUMBUS CENTER NORTH ENTITLEMENT OPERATIONS P.O. BOX 182266 COLUMBUS OH 43218-2266		CODE HQ0837					
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA See Schedule							
15A. ITEM NO.		15B. SUPPLIES/ SERVICES		15C. QUANTITY		15D. UNIT		15E. UNIT PRICE		15F. AMOUNT	
		SEE SCHEDULE									
15G. TOTAL AMOUNT OF CONTRACT \$90,500.00											
16. TABLE OF CONTENTS											
(X) SEC. DESCRIPTION PAGE(S)				(X) SEC. DESCRIPTION PAGE(S)							
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES							
X A SOLICITATION/ CONTRACT FORM 1				X I CONTRACT CLAUSES 16 - 22							
X B SUPPLIES OR SERVICES AND PRICES/ COSTS 2 - 3				PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS							
X C DESCRIPTION/ SPECS/ WORK STATEMENT 4 - 6				J LIST OF ATTACHMENTS							
X D PACKAGING AND MARKING 7				PART IV - REPRESENTATIONS AND INSTRUCTIONS							
X E INSPECTION AND ACCEPTANCE 8				K REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS							
X F DELIVERIES OR PERFORMANCE 9 - 10				L INSTRS. CONDS. AND NOTICES TO OFFERORS							
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CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE											
17. [X] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return 2 copies to issuing office. Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)						18. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.					
19A. NAME AND TITLE OF SIGNER (Type or print) John R. Marciante, Sole Proprietor						20A. NAME AND TITLE OF CONTRACTING OFFICER (b)(6) TEL: (b)(6) EMAIL: (b)(6)					
19B. NAME OF CONTRACTOR BY: [Signature] (Signature of person authorized to sign)						19C. DATE SIGNED 22 Aug 2007					
20B. UNITED STATES OF AMERICA (b)(6)						20C. DATE SIGNED 8/23/07					

## Section B - Supplies or Services and Prices

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Each	\$45,250.00	\$45,250.00

Assessment Report (Interim)

FFP

OptiThink will focus its work on the assessment of bend loss and mode mixing in rectangular-core large-mode-area fibers. Bend loss occurs as a result of the degradation of the internal reflection at the core-cladding interface. Mode mixing begins with the bending of the fiber, changing the physical geometry and breaking the orthogonality of the modes. Both of these effects will be validated against general models in order to be applied to the rectangular-core fibers. Data deliverable/reports will be provided in accordance with Section F.

FOB: Destination

NET AMT

\$45,250.00

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101			Each		NSP

Funding for Study

FFP

FOB: Destination

AO No. Q407/70

NET AMT

\$0.00

ACRN AA

CIN: 00000000000000000000000000000000

\$90,500.00

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	Assessment Report (Final) FFP OptiThink will focus its work on the assessment of bend loss and mode mixing in rectangular-core large-mode-area fibers. Bend loss occurs as a result of the degradation of the internal reflection at the core-cladding interface. Mode mixing begins with the bending of the fiber, changing the physical geometry and breaking the orthogonality of the modes. Both of these effects will be validated against general models in order to be applied to the rectangular-core fibers. Data deliverable/reports will be provided in accordance with Section F. FOB: Destination AO No. Q407/07	1	Each	\$45,250.00	\$45,250.00
NET AMT					\$45,250.00

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000201	Funding for Study FFP FOB: Destination AO No. Q407/07		Each		NSP
NET AMT					\$0.00
ACRN AA CIN: 00000000000000000000000000000000					\$0.00



**Section C - Descriptions and Specifications****CLAUSES INCORPORATED BY FULL TEXT****C-1 Scope of Work**

- (a) ~~The Contractor shall furnish the necessary personnel, materials, facilities and other services as may be required to perform Contract Line Item Numbers (CLINs) 0001 and 0002 in accordance with the Statement of Work, attached below, and as specified in the Contractor's proposal entitled "Assessment of Rectangular-Core Large-Mode-Area Fibers", dated 22 March 07, incorporated by reference.~~

**Statement of Work:**

The work for this contract will entail detailed scientific analysis of rectangular-core optical fibers.

(b)(4)

The technical analysis to be performed will consist of intensive numerical modeling, for which new modeling techniques are required. Specifically, the impact of bending on large-mode-area rectangular-core fibers will be examined. This will be accomplished by modeling the effects of both bend-induced modal loss and mode mixing.

Assessing bend loss will require the development of a generalized model, including validation against known cases, and application of this model to rectangular-core fibers. Assessing mode mixing will require the development of a suitable model and application to rectangular-core fibers.

The deliverables in this project are one interim and one final technical report describing the model development and case analyses in the following areas: developing generalized bend loss theory, developing bend loss simulation code, analyzing bend loss in rectangular geometry, developing intermodal coupling methodology, analyzing intermodal coupling in rectangular geometry, and compiling final report.

- (b) In the event of an inconsistency between the provisions of this contract and the Contractor's proposal, the inconsistency shall be resolved by giving precedence in the following order: (1) the contract, (2) the attachments to the contract, and then (3) the Contractor's proposal.  
(end of clause)

**C-2 Reports and Other Deliverables**

- (a) The Contractor shall submit the following reports and other deliverables in accordance with the delivery schedule set forth in Section F. Reports and other deliverables shall be submitted in writing, as defined in FAR 2.101, or as specified below:

**(1) INTERIM STATUS REPORT**

This brief narrative, not to exceed five pages in length, shall contain the following:

- (i) The date work actually started.
- (ii) Description of progress during the reporting period, supported by reasons for any change in approach reported previously
- (iii) Planned activities and milestones for the next reporting period.
- (iv) Description of any major items of experimental or special equipment purchased or constructed during the reporting period.

- (v) Notification of any changes in key personnel associated with the contract during the reporting period.
  - (vi) Summary of substantive information derived from noteworthy trips, meetings, and special conferences held in connection with the contract during the reporting period.
  - (vii) Summary of all problems or areas of concern.
  - (viii) Related accomplishments since last report.
  - (ix) Fiscal status, to include reporting of summary level financial data.
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**(2) FINAL REPORT**

This report shall document the results of the complete effort and should be delivered at the completion of the contract. If the Government chooses to exercise the options under this contract, the due date for the final report is extended accordingly. Title pages shall include a disclaimer worded substantially as follows:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressly or implied, of the Defense Advanced Research Projects Agency or the U.S. Government."

The Final Technical Report summary shall include:

Task Objectives  
Technical Problems  
General Methodology (i.e., literature review, laboratory experiments, surveys, etc.)  
Technical Results  
Important Findings and Conclusions  
Significant Hardware Development  
Special Comments  
Implications for Further Research  
Standard Form 298, September 1988

(b) Reports delivered by the Contractor in the performance of the contract shall be considered "Technical Data" as defined in Section I contract clauses entitled "Rights in Technical Data – Noncommercial Items" and "Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation."

(c) Bulky Reports shall be mailed by other than first-class mail unless the urgency of submission requires use of first-class mail. In this situation, one copy shall be mailed first-class and the remaining copies forwarded by less than first-class.

(d) All papers and articles published as a result of DARPA sponsored research shall include a statement reflecting the sponsorship. In addition, a bibliography of the titles and authors of all such papers are to be included in the Final Technical Report

(1) The cover or title page of each of the above reports or publications prepared, will have the following citation:

Sponsored by  
Defense Advanced Research Projects Agency  
Microsystems Technology Office (MTO)  
Program Assessment of Rectangular-Core Large-Mode-Area Fibers  
ARPA Order No. Q470/07  
Issued by DARPA/CMO under Contract No. HR0011-07-C-0094

(2) The title page shall include a disclaimer worded substantially as follows:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressly or implied, of the Defense Advanced Research Projects Agency or the U.S. Government."

(3) All technical reports must (i) be prepared in accordance with American National Standards Institute (ANSI) Standard Z39.18; (ii) include a Standard Form 298, August 1998; and (iii) be marked with an appropriate Distribution Statement.

(end of clause)

**Section D - Packaging and Marking**

**CLAUSES INCORPORATED BY FULL TEXT**

**D-1 Packaging and Marking**

~~(a) All items shall be preserved, packaged, packed and marked in accordance with best commercial practices to meet the packing requirements of the carrier, and to ensure safe delivery at destination.~~  
(end of clause)

**Section E - Inspection and Acceptance**

**INSPECTION AND ACCEPTANCE TERMS**

Supplies/services will be inspected/accepted at destination by the receiving activity (see Section G-2, Electronic Submission of Payment Requests).

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**CLAUSES INCORPORATED BY REFERENCE**

52.246-7	Inspection Of Research And Development Fixed Price	AUG 1996
252.246-7000	Material Inspection And Receiving Report	MAR 2003

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## Section F - Deliveries or Performance

## DELIVERY INFORMATION

## CLAUSES INCORPORATED BY REFERENCE

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52.247-34	F.O.B. Destination	NOV 1991
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## CLAUSES INCORPORATED BY FULL TEXT

## F-1 Term of Contract

- (a) The term of the contract commences on the effective date of the contract and continues through 3 months thereafter.

## F-2 Reports and Other Deliverables

- (a) Delivery of all reports and other deliverables shall be made to the addressee specified in F-3 entitled "Report Distribution" in accordance with the following:

Item No.	Description	Due Date (on or before)
0001	Interim Report	6 October 2007
0002	Final Report	21 November 2007

(end of clause)

## F-3 Report Distribution

- (a) Defense Technical Information Center

- (1) Email: TR@dtic.mil  
(one electronic copy of the Final Technical Report, if unclassified)

OR

- (2) Attn: DTIC-BCS  
8725 John J. Kingman Road, Suite 0944  
Fort Belvoir, VA 22060-0944  
(two hard copies of the Final Technical Report if unclassified)

- (b) DARPA/Library  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
Email: library@darpa.mil  
(one copy of the Final Technical Report)

**(c) DARPA/MTO**

Attn: Joseph Mangano  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
Email: (joseph.mangano@darpa.mil)  
(one copy each report)

**(d) DARPA/MTO**

Attn: ADPM  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
(one copy each report)

**(e) DARPA/CMO**

Attn: Michael Blackstone  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
Email: Michael.Blackstone@darpa.mil  
(one copy each report)

Note 1: Hard copy distribution to those persons in (c) – (e) shall be for the Final Report only.  
(end of clause)

**F-4 Notice Regarding Late Delivery**

(a) In the event the Contractor anticipates difficulty in complying with the contract delivery schedule, the Contractor shall immediately notify the Contracting Officer in writing, giving pertinent details, including the date by which it expects to make delivery; PROVIDED, however, that this date shall be informational only in character and the receipt thereof shall not be construed as a waiver by the Government of any contract delivery schedule, or any rights or remedies provided by law or under this contract.  
(end of clause)

## Section G - Contract Administration Data

## ACCOUNTING AND APPROPRIATION DATA

AA: 9770400 1320 Q407 P7720 2525 DPAC 7 5262 S12136 62716E

AMOUNT: \$90,500.00

CIN 000000000000000000000000000000: \$90,500.00

## CLAUSES INCORPORATED BY FULL TEXT

## 252.204-7006 BILLING INSTRUCTIONS (OCT 2005)

When submitting a request for payment, the Contractor shall--

- (a) Identify the contract line item(s) on the payment request that reasonably reflect contract work performance; and
- (b) Separately identify a payment amount for each contract line item included in the payment request.

(End of clause)

## G-1 Procuring Office Representative

- (a) The Procuring Office Representative is Michael Blackstone, DARPA/CMO, 3701 North Fairfax Drive, Arlington, VA 22203-1714, telephone: 571-218-4578, e-mail: michael.blackstone@darpa.mil.
- (end of clause)

## G-2 Electronic Submission of Payment Requests

- (a) An "Invoice as 2 in 1" document identified by contract number shall be submitted for payment directly via the Internet to Wide Area Workflow (WAWF) at <https://wawf.eb.mil>. Supporting details for the invoice shall be attached to the WAWF "Invoice as 2 in 1" document.

(1) For the Issue By DoDAAC and Admin DoDAAC fields, enter HR0011.

(2) For the Service Acceptor fields, enter HR0011 and Extension 01.

(3) Leave the Inspect By DoDAAC, Ship From Code DoDAAC and LPO DoDAAC fields blank.

Note: The Contractor shall ensure that the PCO receives an e-mail notification from the WAWF system upon invoice submission.

(end of clause)

## G-3 Delegation of Authority for Contract Administration

- (a) DCMA Syracuse (DoDAAC S3306A), is hereby designated as the Contracting Officer's authorized representative for administering this contract in accordance with current directives.
- (end of clause)

**G-4 Payment Instructions for Multiple Accounting Classification Citations**

- (a) Payments under contract line items funded by multiple accounting classification citations shall be made from the earliest available fiscal year funding sources. The earliest assigned ACRN must be fully disbursed before making disbursements from a succeeding ACRN.  
(end of clause)
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## Section H - Special Contract Requirements

## CLAUSES INCORPORATED BY FULL TEXT

## H-1 Contracting Officer

(a) ~~Notwithstanding any other provision of this contract, the Contracting Officer is the only individual~~ authorized to redirect the effort or in any way amend or modify any of the terms of this contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statement of work, a modification must be issued in writing and signed by the Contracting Officer.

(end of clause)

## H-2 Type of Contract

(a) This is a firm fixed price contract.

(end of clause)

## H-3 Public Release or Dissemination of Information

(a) There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Technical Information Officer (DARPA/TIO). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the Contractor. Papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

(b) When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor must submit a request for public release request to the DARPA TIO and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to [tio@darpa.mil](mailto:tio@darpa.mil) or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to [www.darpa.mil/tio](http://www.darpa.mil/tio) for information about DARPA's public release process.

(end of clause)

## H-4 Key Personnel

(a) The Contractor shall notify the Contracting Officer prior to making any change in key personnel. Key personnel are defined as follows:

Dr. John Marciante, PI

(b) The Contractor must demonstrate that the qualifications of the prospective personnel are equal to or better than the qualifications of the personnel being replaced. Notwithstanding any of the foregoing provisions, key personnel shall be furnished unless the Contractor has demonstrated to the satisfaction of the COR that the

qualifications of the proposed substitute personnel are equal to or better than the qualifications of the personnel being replaced.  
(end of clause)

#### H-5 Restrictions on Printing

(a) Unless otherwise authorized in writing by the Contracting Officer, reports, data, or other written material produced using funds provided by this contract and submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. These restrictions do not preclude the writing, editing, preparation of manuscript or reproducible copy of related illustrative materials if required as part of this contract, or incidental printing such as forms or materials necessary to be used by the Contractor to respond to the terms of the contract.  
(end of clause)

#### H-6 Contractor Representations and Certifications

(a) The Contractor's Representations and Certifications dated 14 July 2007 are incorporated herein by reference.  
(end of clause)

#### H-7 Insurance Schedule

(a) The Contractor shall maintain the types of insurance listed in FAR 28.307-2 (a), (b) and (c), with the minimum amounts of liability indicated therein. The types of insurance coverage listed in paragraphs (d) and (e) shall also be maintained when applicable.  
(end of clause)

#### H-8 Travel

(a) Reimbursement for travel-related expenses shall be in accordance with the Contractor's approved travel policy. The Federal Travel Regulations, Joint Travel Regulations (JTR), and Standardized Regulations as stated in FAR 31.205-46 will be used as a guide in determining reasonableness of per diem costs. Costs for travel shall be allowable subject to the provisions of FAR 31.205-46.

(b) In connection with direct charge to the contract of travel-related expenses, the Contractor shall hold travel to the minimum required to meet the objectives of the contract, and substantial deviations from the amount of travel agreed to during contract negotiation shall not be made without the authorization of the Contracting Officer.

When applicable, the Contractor shall notify the COR of proposed travel of an employee beyond that agreed to during negotiations.

(c) Approval of the Contracting Officer shall be obtained in advance for attendance by personnel at training courses, seminars, and other meetings not directly related to contract performance if the costs for the courses, seminars, and other meetings are charged to the contract.

(d) All foreign travel shall be authorized and approved in advance, in writing, by the Contracting Officer. Request for such travel must be submitted to the Contracting Officer at least forty-five (45) days in advance of traveler's anticipated departure date, and shall include traveler's itinerary of United States Flag Air Carriers.  
(end of clause)

**H-9 Metric System**

- (a) The Defense Advanced Research Projects Agency (DARPA) will consider the use of the metric system in all of its activities consistent with operational, economical, technical and safety requirements.
  - (b) The metric system will be considered for use in all new designs. When it is deemed not to be in the best interest of the DoD to provide metric design, justification shall be provided.
  - (c) Physical and operational interfaces between metric items and U.S. customary items will be designed to assure that interchangeability and interoperability will not be affected.
  - (d) Existing designs dimensioned in U.S. customary units will be converted to metric units only if determined to be necessary or advantageous. Unnecessary retrofit of existing systems with new metric components will be avoided where both the new metric and existing units are interchangeable and interoperable. Normally, the system of measurement in which an item is originally designed will be retained for the life of the item.
  - (e) During the metric transition phase hybrid metric and U.S. customary designs will be necessary and acceptable. Material components, parts, subassemblies, and semi-fabricated material, which are of adequate or when it is otherwise specifically determined to be in the best interest of the Department of Defense. Bulk materials will be specified and accepted in metric units when it is expedient or economical to do so.
  - (f) Technical reports, studies, and position papers, (except those pertaining to items dimensioned in U.S. customary units) will include metric units of measurement in addition to or in lieu of U.S. customary units. With respect to existing contracts, this requirement applies only if such documentation can be obtained without an increase in contract costs.
  - (g) Use of the dual dimensions (i.e., both metric and U.S. customary dimensions) on drawings will be avoided unless it is determined in specific instances that such usage will be beneficial. However, the use of tables on the document to translate dimensions from one system of measurement to the other is acceptable.
- (end of clause)

**H-10 Proprietary Technical Data and Computer Software**

- (a) Any deliverable technical data or computer software developed or generated at private expense and considered to be proprietary by the Contractor or subcontractors shall be delivered in accordance with DFARS 252.227-7013 and 252.227-7014. A list of such data and/or software is incorporated into the contract as Attachment No. N/A.
- (end of clause)



## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2005
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	SEP 2006
52.215-15	Pension Adjustments and Asset Reversions	OCT 2004
52.215-19	Notification of Ownership Changes	OCT 1997
52.219-7	Notice of Partial Small Business Set-Aside	JUN 2003
52.219-28	Post-Award Small Business Program Rerepresentation	JUN 2007
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	AUG 1996
52.232-2	Payments Under Fixed-Price Research And Development Contracts	APR 1984
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	OCT 2003
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.242-13	Bankruptcy	JUL 1995
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	MAR 2007
52.249-1	Termination For Convenience Of The Government (Fixed Price) (Short Form)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991



252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense- Contract-Related Felonies	DEC 2004
252.204-7002	Payment For Subline Items Not Separately Priced	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	NOV 2003
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.222-7006	Combating Trafficking in Persons	OCT 2006
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7015	Technical Data--Commercial Items	NOV 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7019	Validation of Asserted Restrictions--Computer Software	JUN 1995
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.232-7003	Electronic Submission of Payment Requests	MAR 2007
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7010	Acknowledgment of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.247-7023 Alt III	Transportation of Supplies by Sea (May 2002) Alternate III	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

#### CLAUSES INCORPORATED BY FULL TEXT

#### 52.227-11 PATENT RIGHTS--RETENTION BY THE CONTRACTOR (SHORT FORM) (JUN 1997)

##### (a) Definitions.

(1) "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.).

(2) "Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(3) "Nonprofit organization" means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

(4) "Practical application" means to manufacture, in the case of a composition of product; to practice, in the case of a process or method, or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

(5) "Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this

clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

(6) "Subject invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under this contract, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of contract performance.

(b) Allocation of principal rights. The Contractor may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor retains title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention disclosure, election of title, and filing of patent application by Contractor. (1) The Contractor will disclose each subject invention to the Federal agency within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the agency, the Contractor will promptly notify the agency of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor.

(2) The Contractor will elect in writing whether or not to retain title to any such invention by notifying the Federal agency within 2 years of disclosure to the Federal agency. However, in any case where publication, on sale or public use has initiated the 1-year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor will file its initial patent application on a subject invention to which it elects to retain title within 1 year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Contractor will file patent applications in additional countries or international patent offices within either 10 months of the corresponding initial patent application or 6 months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure election, and filing under subparagraphs (c)(1), (2), and (3) of this clause may, at the discretion of the agency, be granted.

(d) Conditions when the Government may obtain title. The Contractor will convey to the Federal agency, upon written request, title to any subject invention--

(1) If the Contractor fails to disclose or elect title to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain title; provided, that the agency may only request title within 60 days after learning of the failure of the Contractor to disclose or elect within the specified times.

(2) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the Federal agency, the Contractor shall continue to retain title in that country.



(3) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

(e) Minimum rights to Contractor and protection of the Contractor right to file. (1) The Contractor will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the Contractor fails to disclose the invention within the times specified in paragraph (c) of this clause. The Contractor's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the Contractor is a party and includes the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of the Federal agency, except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(2) The Contractor's domestic license may be revoked or modified by the funding Federal agency to the extent necessary to achieve expeditious practical application of subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR Part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the Contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal agency to the extent the Contractor, its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the funding Federal agency will furnish the Contractor a written notice of its intention to revoke or modify the license, and the Contractor will be allowed 30 days (or such other time as may be authorized by the funding Federal agency for good cause shown by the Contractor) after the notice to show cause why the license should not be revoked or modified. The Contractor has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 and agency regulations, if any, concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

(f) Contractor action to protect the Government's interest. (1) The Contractor agrees to execute or to have executed and promptly deliver to the Federal agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Contractor elects to retain title, and (ii) convey title to the Federal agency when requested under paragraph (d) of this clause and to enable the Government to obtain patent protection throughout the world in that subject invention.

(2) The Contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Contractor each subject invention made under contract in order that the Contractor can comply with the disclosure provisions of paragraph (c) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by subparagraph (c)(1) of this clause. The Contractor shall instruct such employees, through employee agreements or other suitable educational programs, on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The Contractor will notify the Federal agency of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response period required by the relevant patent office.

(4) The Contractor agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by (identify the Federal agency). The Government has certain rights in the invention."

(g) Subcontracts. (1) The Contractor will include this clause, suitably modified to identify the parties, in all



subcontracts, regardless of tier, for experimental, developmental, or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the Contractor in this clause, and the Contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The Contractor will include in all other subcontracts, regardless of tier, for experimental, developmental, or research work the patent rights clause required by Subpart 27.3.

(3) In the case of subcontracts, at any tier, the agency, subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (j) of this clause.

(h) Reporting on utilization of subject inventions. The Contractor agrees to submit, on request, periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as the agency may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the agency agrees it will not disclose such information to persons outside the Government without permission of the Contractor.

(i) Preference for United States industry. Notwithstanding any other provision of this clause, the Contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any product embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in rights. The Contractor agrees that, with respect to any subject invention in which it has acquired title, the Federal agency has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency to require the Contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Contractor, assignee, or exclusive licensee refuses such a request the Federal agency has the right to grant such a license itself if the Federal agency determines that--

(1) Such action is necessary because the Contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Contractor, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Contractor, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Special provisions for contracts with nonprofit organizations. If the Contractor is a nonprofit organization, it agrees that--



(1) Rights to a subject invention in the United States may not be assigned without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions; provided, that such assignee will be subject to the same provisions as the Contractor;

(2) The Contractor will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) The balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions will be utilized for the support of scientific research or education; and

(4) It will make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business firms, and that it will give a preference to a small business firm when licensing a subject invention if the Contractor determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the Contractor is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the contractor. However, the Contractor agrees that the Secretary of Commerce may review the Contractor's licensing program and decisions regarding small business applicants, and the Contractor will negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the Contractor could take reasonable steps to more effectively implement the requirements of this subparagraph (k)(4).

(l) Communications.

All written notifications/reports required by this clause shall be submitted to the Administrative Contracting Officer (ACO). All required reporting shall be accomplished using the i-Edison.gov reporting website (<http://s-edison.info.nih.gov/iEdison>).

Final patent report will be submitted in hard copy to the Administrative Contracts Officer (ACO) and Procurement Contract Officer (PCO) designated herein until such time that iEdison allows for electronic submission.

(End of clause)

#### 52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)

United States law will apply to resolve any claim of breach of this contract.

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hil.af.mil>


(End of clause)

**52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)**

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J		PAGE OF PAGES 1   2	
2. AMENDMENT/MODIFICATION NO. P00001		3. EFFECTIVE DATE 21-Nov-2007		4. REQUISITION/PURCHASE REQ. NO. SEE SCHEDULE		5. PROJECT NO. (if applicable)	
6. ISSUED BY DARPA CMO ATTN: MICHAEL D. BLACKSTONE 3701 N. FAIRFAX DR. ARLINGTON VA 22203-1714		CODE HR0011		7. ADMINISTERED BY (if other than item 6) OCMA SYRACUSE 615 ERIE BLVD. WEST SUITE 300 SYRACUSE NY 13204-2438		CODE S3306A	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) OPTITHINK JOHN R. MARCIANTE P.O. BOX 511 WEBSTER NY 14580-0511				9A. AMENDMENT OF SOLICITATION NO.			
				9B. DATED (SEE ITEM 11)			
				X 10A. MOD. OF CONTRACT/ORDER NO. HR0011-07-C-0094			
				X 10B. DATED (SEE ITEM 13) 23-Aug-2007			
CODE 4TBS0		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (if required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Mutual Agreement of the Parties							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UICF section headings, including solicitation/contract subject matter where feasible.) Modification Control Number: elatwin08143 The purpose of this modification is to extend the contract period of performance end date and CLIN 0002 delivery date to January 4, 2008 at no additional cost to the Government. See page two (2).							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print) John R. Marciante, Sole Proprietor				(b)(6)			
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)		15C. DATE SIGNED 28 Nov 2007		(b)(6)		16C. DATE SIGNED 11/29/07	

EXCEPTION TO SF 30  
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)  
Prescribed by GSA  
FAR (48 CFR) 53.243 (PO)



HR0011-07-C-0094

Page 2 of 2

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

## SUMMARY OF CHANGES

## SECTION F - DELIVERIES OR PERFORMANCE

The following have been modified in bold:

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## 1. F-1 Term of Contract

(a) The term of the contract commences on the effective date of the contract and continues through **4 January 2008**.

## 2. F-2 Reports and Other Deliverables

(a) Delivery of all reports and other deliverables shall be made to the addressee specified in F-3 entitled "Report Distribution" in accordance with the following:

Item No.	Description	Due Date (on or before)
0001	Interim Report	6 October 2007
0002	Final Report	<b>4 January 2008</b>

(end of clause)

3. Except as modified above, the terms and conditions of Contract No. HR0011-07-C-0094 shall remain unchanged and in full force and effect.

(End of Summary of Changes)